Colposcopy Questions
The patient is a 30-year-old, G3P3 woman who four years earlier had a Pap smear that was interpreted as a low grade squamous intraepithelial lesion (LSIL). A colposcopic evaluation found no visible lesion. A repeat smear the following year was read as atypical squamous cells of undetermined significance (ASC-US) and she had no follow-up until a recent routine exam Pap smear was reported as a high grade squamous intraepithelial lesion (HSIL).

1. The slide at the right demonstrates the findings at colposcopy after the application of 5% acetic acid. What colposcopic features are present?

- a. Mild acetowhite epithelium on the posterior lip of the cervix
- b. Dense acetowhite epithelium on the posterior lip of the cervix
- c. Satisfactory exam
- d. Coarse punctation
2. Using a cotton-tipped applicator, the anterior lip of the cervix is raised and the slides at the right reveal the following colposcopic findings at a low and higher power:

  ○ a. A faint well defined low-grade acetowhite epithelium at the squamocolumnar junction
  ○ b. A well defined high grade acetowhite lesion in the canal with atypical vessels
  ○ c. Leukoplakia
  ○ d. Fine punctuation
3. After reviewing the 3 prior colpophotographs, these findings are most consistent with what type of lesion?

- a. Immature metaplasia
- b. Low grade CIN
- c. High grade CIN
- d. Frankly invasive cancer

4. The slide at the right is a view of the biopsy specimen taken from the most abnormal area. These findings are consistent with:

- a. Immature metaplasia
- b. Low grade CIN
- c. High grade CIN
- d. Frankly invasive cancer
The patient is a 30-year-old, G3P3 woman who four years earlier had a Pap smear that was interpreted as a low grade squamous intraepithelial lesion (LSIL). A colposcopic evaluation found no visible lesion. A repeat smear the following year was read as atypical squamous cells of undetermined significance (ASC-US) and she had no follow-up until a recent routine exam Pap smear was reported as a high grade squamous intraepithelial lesion (HSIL).

1. The slide at the right demonstrates the findings at colposcopy after the application of 5% acetic acid. What colposcopic features are present?

   - a. Mild acetowhite epithelium on the posterior lip of the cervix
   - b. Dense acetowhite epithelium on the posterior lip of the cervix
   - c. Satisfactory exam
   - d. Coarse punctuation

**Answer:** b There is an area of dense white epithelium on the posterior lip of the cervix. There also appears to be a lesion in the canal at 12 o’clock and on the ectocervix at 2 o’clock, and the squamocolumnar junction cannot be seen fully anteriorly, making this an unsatisfactory exam. The current findings are suggestive of high grade CIN, but complete assessment of the extent of disease present is not possible since the SCJ is not visible.
2. Using a cotton-tipped applicator, the anterior lip of the cervix is raised and the slides at the right reveal the following colposcopic findings at a low and higher power:

- a. A faint well defined low-grade acetowhite epithelium at the squamocolumnar junction
- b. A well defined high grade acetowhite lesion in the canal with atypical vessels
- c. Leukoplakia
- d. Fine punctation

Answer: b There is a lesion on the anterior aspect of the distal canal with dense white epithelium and coarse punctation. Just above this lesion is another lesion with dense white epithelium and a very coarse mosaic and punctate pattern. A mosaic pattern is also seen in the lesion at 6 o'clock. Some of the vessels within the punctation pattern are linear and therefore qualify as atypical vessels. Metaplasia, if present, would be a faint (or translucent) white color, and is not associated with coarse punctation. This case demonstrates both the technique and the benefits of looking into the endocervical canal. As a woman gets older her squamocolumnar junction recedes further up the endocervical canal. Although an obvious well-circumscribed lesion is seen on the ectocervix (posterior lip), the lesion in the canal is barely seen peeking out of the canal on the anterior lip. In the absence of the ectocervical lesion this could easily have been missed. Because of the poor desmosomal attachment of high-grade dysplastic epithelium to the underlying stroma, any contact (such as with a cotton-tipped applicator or an endocervical speculum) could easily dislodge the epithelium, causing it to be lost. For this reason, great care must be taken whenever any instrument (even a Q-tip) is used for retraction in the endocervical canal.
3. After reviewing the 3 prior colpophotographs, these findings are most consistent with what type of lesion?

- a. Immature metaplasia
- b. Low grade CIN
- c. High grade CIN
- d. Frankly invasive cancer

**Answer: c** The dense white epithelium, coarse mosaic and punctuation pattern is all consistent with a high-grade lesion. Atypical vessels may be seen in CIN 3, microinvasion, frankly invasive cancer, and adenocarcinoma as well as inflammatory conditions, and following radiotherapy.

4. The slide at the right is a view of the biopsy specimen taken from the most abnormal area. These findings are consistent with:

- a. Immature metaplasia
- b. Low grade CIN
- c. High grade CIN
- d. Frankly invasive cancer

**Answer: c** There are immature cells extending the full depth of the epithelium, along with cellular crowding and loss of polarity.
This is a 26-year-old patient, who is HIV positive and presents with a Pap smear showing HSIL. These slides show her colposcopic findings.

1. Colposcopy after acetic acid reveals which of the following features?
   
   - a. An exophytic lesion with dense acetowhite lesion
   - b. Punctuation
   - c. A mosaic pattern
   - d. An ulcerative lesion in the endocervical canal

2. The colposcopy is:
   
   - a. Unsatisfactory - unable to visualize the squamocolumnar junction
   - b. Unsatisfactory - unable to visualize the entire lesion
   - c. Satisfactory
   - d. Satisfactory
3. High power view of the anterior lip is seen at the right. Your colposcopic impression includes all of the following except?

   ○ a. Invasive cancer
   ○ b. Subclinical HPV
   ○ c. Metaplasia
   ○ d. High grade SIL (CIN 3)

4. The most appropriate area for biopsy is:

   ○ a. 3 o'clock
   ○ b. 6 o'clock
   ○ c. 9 o'clock
   ○ d. 12 o'clock
5. Your biopsy is shown here and is indicative of:

- a. Low grade SIL (HPV)
- b. High grade SIL
- c. Microinvasive cancer
- d. Invasive squamous cancer
- e. Adenocarcinoma-in-situ

6. Your management plan at this time would include:

- a. Ablation by Laser vaporization
- b. Excision of the lesion and the transformation zone (cold-knife cone, electrosurgical loop excision, Laser excision)
- c. Cryotherapy
- d. Referral for radical surgery
7. A cold knife conization was performed and the results are seen in the slide at the right. Your diagnosis is:

- a. Low grade SIL (HPV)
- b. High grade SIL
- c. Adenocarcinoma-in-situ
- d. Microinvasion
- e. Invasive cancer

8. Management at this time would consist of:

- a. Close observation with cytology and colposcopy
- b. Repeat conization
- c. Vaginal hysterectomy
- d. Radical hysterectomy
- e. Radiation therapy
This is a 26-year-old patient, who is HIV positive and presents with a Pap smear showing HSIL. These slides show her colposcopic findings.

1. Colposcopy after acetic acid reveals which of the following features?
   - a. An exophytic lesion with dense acetowhite lesion
   - b. Punctuation
   - c. A mosaic pattern
   - d. An ulcerative lesion in the endocervical canal

The correct answer is a.
The colpophotograph reveals a dense acetowhite lesion. The lesion appears somewhat exophytic along the 12 o’clock area. There is an atypical vessel seen in the 12 o’clock position along with some punctuation. This is best seen on high magnification. One could state that there appears to be a mosaic pattern present, however, this may also represent papillae of condyloma. There is some evidence of inflammatory changes at 6 o’clock.

2. The colposcopy is:
   - a. Unsatisfactory - unable to visualize the squamocolumnar junction
   - b. Unsatisfactory - unable to visualize the entire lesion
   - c. Satisfactory
   - d. Satisfactory

The correct answer is c.
The colposcopy appears to be satisfactory with both the entire transformation zone and the limits of the lesion seen.
3. High power view of the anterior lip is seen at the right. Your colposcopic impression includes all of the following except?

- a. Invasive cancer
- b. Subclinical HPV
- c. Metaplasia
- d. High grade SIL (CIN 3)

The correct answer is b.
This colpophotograph represents a high power view. Most of these areas appear to be exophytic condyloma with a single vessel lining the papillae. There are some areas, however, of denser acetowhite epithelium. The colposcopic differentiation here is between condyloma and an early invasive lesion. Differentiating between an exophytic condyloma and invasive cancer can sometimes be challenging, even for an experienced colposcopist. The color and topography of the epithelium is also consistent with a high grade SIL. This is especially true where the epithelium is flatter and less microconvoluted at 12-1 o’clock. Biopsy would be appropriate in this patient.

4. The most appropriate area for biopsy is:

- a. 3 o’clock
- b. 6 o’clock
- c. 9 o’clock
- d. 12 o’clock

The correct answer is d.
The dense acetowhite area between 12-1 o’clock would be the most appropriate point to biopsy. There is also an atypical vessel in that area.
5. Your biopsy is shown here and is indicative of:

- a. Low grade SIL (HPV)
- b. High grade SIL
- c. Microinvasive cancer
- d. Invasive squamous cancer
- e. Adenocarcinoma-in-situ

**The correct answer is a.**
The biopsy results are seen in the slide shown. Koilocytotic changes are evident but there is no true dysplasia seen.

6. Your management plan at this time would include:

- a. Ablation by Laser vaporization
- b. Excision of the lesion and the transformation zone (cold-knife cone, electrosurgical loop excision, Laser excision)
- c. Cryotherapy
- d. Referral for radical surgery

**6. The correct answer is b.**
Management of an immunocompromised patient at high risk for cervical intraepithelial neoplasia with a Pap smear showing HSIL should include an excisional biopsy. Authorities are divided on the question of whether cold knife conization is more appropriate than loop excision. If there is no suggestion of invasive cancer on cytology, colposcopy or histology, then loop excision may be appropriate. However, in this case, there was a clinical suspicion of invasive cancer so cold knife conization was performed.
7. A cold knife conization was performed and the results are seen in the slide at the right. Your diagnosis is:

- a. Low grade SIL (HPV)
- b. High grade SIL
- c. Adenocarcinoma-in-situ
- d. Microinvasion
- e. Invasive cancer

8. Management at this time would consist of:

- a. Close observation with cytology and colposcopy
- b. Repeat conization
- c. Vaginal hysterectomy
- d. Radical hysterectomy
- e. Radiation therapy

7. **The correct answer is a.**
   Cold knife conization was performed and the final results show nuclear crowding in the lower 1/3 of the epithelium and koliocytic changes in the upper level of the epithelium. This is consistent with HPV changes.

8. **The correct answer is a.**
   Management of this high-risk patient at this time should include close observation with cytology and colposcopy. Failure rate for treatment of dysplasia in the HIV positive patient is very high. Most authorities feel that close follow-up and continued excisional biopsies will prevent development of invasive lesions.
A 30-year-old, para 1-0-0-1, presents for colposcopy with CIN 1 and HPV changes on her most recent Pap smear.

1. The findings on colposcopy are:
   - a. A satisfactory exam with elevated dense acetowhite epithelium at 7 o'clock to 11 o'clock, suggestive of a low-grade lesion and a satellite lesion consistent with HPV changes.
   - b. A satisfactory exam with a large and irregular snowy-white lesion.
   - c. Fine punctation.
   - d. Atypical vessels.
This slide shows the histology from directed biopsy of the lesion.

2. The findings on histology are:

   ○ a. Mature squamous epithelium with some koilocytosis and inflammatory nuclear atypia.
   ○ b. Immature squamous metaplasia.
   ○ c. Squamous epithelium with koilocytosis and nuclear atypia consistent with condyloma.
   ○ d. Dysplastic epithelial cells occurring in the upper half of the epithelium.

This is a high power view of the same lesion.

3. This view demonstrates which of the following?

   ○ a. Koilocytosis without nuclear atypia.
   ○ b. A dense inflammatory infiltrate.
   ○ c. Frankly dysplastic epithelial cells.
   ○ d. Koilocytosis.
4. Endocervical sampling reveals no evidence of dysplasia. The patient has an intact immune system, does not smoke, is in a very stable and monogamous relationship, and is very compliant with her appointments. The most appropriate management plan at this time is to:

   - [ ] a. Perform ablative therapy such as cryosurgery or laser vaporization.
   - [ ] b. Perform an electrosurgical loop excision.
   - [ ] c. Have the patient return in 6 months for a Pap smear and in one year for follow-up colposcopy.
   - [ ] d. Follow her at yearly intervals with Pap smears.
A 30-year-old, para 1-0-0-1, presents for colposcopy with CIN 1 and HPV changes on her most recent Pap smear.

1. The findings on colposcopy are:

   - a. A satisfactory exam with elevated dense acetowhite epithelium at 7 o'clock to 11 o'clock, suggestive of a low-grade lesion and a satellite lesion consistent with HPV changes.
   - b. A satisfactory exam with a large and irregular snowy-white lesion.
   - c. Fine punctuation.
   - d. Atypical vessels.

1. **Answer:** a There is a flat and two-quadrant lesion of the transformation zone on the left side of the cervix between 7 o'clock and 11 o'clock. It is snowy-white in color with varying density. The contour is flocculated and irregular. These findings are consistent with a low-grade lesion. In addition, there are a few acetowhite satellite lesions consistent with condylomatous changes.
This slide shows the histology from directed biopsy of the lesion.

2. The findings on histology are:
   
   - a. Mature squamous epithelium with some koilocytosis and inflammatory nuclear atypia.
   - b. Immature squamous metaplasia.
   - c. Squamous epithelium with koilocytosis and nuclear atypia consistent with condyloma.
   - d. Dysplastic epithelial cells occurring in the upper half of the epithelium.

   This is a high power view of the same lesion.

3. This view demonstrates which of the following?
   
   - a. Koilocytosis without nuclear atypia.
   - b. A dense inflammatory infiltrate.
   - c. Frankly dysplastic epithelial cells.
   - d. Koilocytosis.

2. **Answer:** c The slide shows a section of thickened squamous epithelium exhibiting a flat cervical lesion with koilocytosis in maturing squamous epithelial cells. There is not a marked inflammatory response. Although some multinucleation of cells can be seen, definitive dysplastic cells are not present. Formerly called "flat condylomata" it is now recommended that such lesions be referred to as "CIN 1 with HPV effect."

3. **Answer:** d The slide shown is a higher power view of the koilocytic maturing squamous cells.
4. Endocervical sampling reveals no evidence of dysplasia. The patient has an intact immune system, does not smoke, is in a very stable and monogamous relationship, and is very compliant with her appointments. The most appropriate management plan at this time is to:

- a. Perform ablative therapy such as cryosurgery or laser vaporization.
- b. Perform an electrosurgical loop excision.
- c. Have the patient return in 6 months for a Pap smear and in one year for follow-up colposcopy.
- d. Follow her at yearly intervals with Pap smears.

4. **Answer:** c In the past, biopsy proven low-grade lesions (CIN 1) with negative endocervical sampling and a satisfactory colposcopy were usually ablated with cryosurgery or laser. However, conservative management of these lesions with more frequent Pap smears and colposcopic evaluation is now widely accepted. Most of these lesions will regress spontaneously with time, and post-treatment complications such as stenosis or an inaccessible squamo-columnar junction can be avoided. There is no “cook-book” approach to management of low-grade lesions on the cervix, and consideration must be given to all risk factors, patient’s desire and ability to comply, and location, size, and extent of lesion(s). Electrosurgical loop excision (LEEP or LLETZ) is most often used for the treatment of high-grade disease because most low-grade lesions can be followed conservatively. However, it has also become the preferred treatment modality for all cervical dysplasia requiring treatment. It can be combined with laser ablation to treat very large or multiple lesions that extend into the vagina. The excisional nature of LEEP adds to its advantage over ablation in that it is much less likely that an undiagnosed high-grade lesion or cancer will be missed.
This 30-year-old, para 1-1-0-1, attending gynecologic endocrine clinic for management of premenstrual syndrome was found to have a cervical cytology compatible with CIN 3.

1. This is a colpophotograph of the cervix prior to the application of acetic acid. One can see an area of circumoral redness. Which of the following may cause circumoral redness of the cervix?

- a. neoplasia and metaplasia
- b. inflammation (acute cervicitis)
- c. ectopy
- d. all of the above
2. This is a medium magnification colpophotograph of the anterior lip of the cervix after the application of acetic acid. Which of the following can you identify?

- a. acetowhite lesion
- b. leukoplakia
- c. corkscrew-shaped blood vessels
- d. punctation

3. This is a higher magnification colpophotograph of the posterior lip of the cervix after the application of acetic acid. Which of the following are present?

- a. acetowhite lesion
- b. slightly irregular surface with mosaic-type vascular patterns
- c. sharply demarcated border
- d. all of the above
4. These are low and high magnification respectively of H and E preparations of biopsy obtained from the mosaic area shown on the previous slide. Which of the following is the correct diagnosis?

- a. microinvasive carcinoma less than 3 mm. invasion
- b. atypical squamous metaplasia
- c. CIN 3
- d. koilocytosis
5. Appropriate management for this patient would include (more than one answer may be correct):

- a. hysterectomy
- b. laser vaporization
- c. cold knife conization
- d. electrosurgical loop excision
1. **Answer: d** In general, any condition that will induce an increase in stromal vascularity of the cervix will give a red reflex on colposcopic examination. Thus, acute cervicitis (inflammation) is a cause of redness since it will induce a localized neovascularity which is the "rubor" of the classical pathologists' description of inflammatory change.

Neoplasia can also cause localized redness due to increase in vascularity of the area supporting a neoplasm. Indeed, one of the reported characteristics of neoplasia is their ability to induce neo-vascularity.

Squamous metaplasia can also cause redness of the cervix. This process, however, has another component to its giving a red reflex on inspection of the cervix than just neovascularity. It does indeed induce a neovascularity. However, it also had the "thin filter" concept that I find useful in teaching colposcopy. This simply means that you think of the cervical epithelium as a filter of varying thickness, depending on the estrogen state of the patient. This "filter" will prevent a percentage of the incident light of the colposcope to penetrate into the stroma - thus, a postmenopausal patient with a thin hypoestrogenized epithelium (filter) will allow a greater percentage of the incident light of the colposcope to penetrate into the stroma and give a slightly redder reflex than will the well estrogenized thicker epithelium (filter) of the mature ovulating female. Squamous metaplasia, until the process is completed, is only a few cell layers in thickness (filter), thus a greater percentage of the incident light will penetrate into the stroma.

Ectopy, on the other hand, which will also cause a red reflex, is an area of ectopic columnar epithelium, and thus is only one cell layer thick (filter) thereby allowing the greatest amount of incident light to penetrate to its vascular bed, and thus in my experience, gives the brightest red reflex from the cervix.
2. This is a medium magnification colpophotograph of the anterior lip of the cervix after the application of acetic acid. Which of the following can you identify?

- a. acetowhite lesion
- b. leukoplakia
- c. corkscrew-shaped blood vessels
- d. punctation

2. **Answer:** a An acetowhite lesion is seen and area of punctation between the 2 and 3 o'clock position. In one area, one can almost imagine a mosaic pattern at the 3 o'clock position. (See following slide for comparison.)

3. This is a higher magnification colpophotograph of the posterior lip of the cervix after the application of acetic acid. Which of the following are present?

3. **Answer:** d This colposcopic picture is fairly representative of neoplasia-preinvasive. I want to call to your attention to a feature that is not emphasized as much as I think it should--the border of the acetowhite lesion. (Note: This sharp border is best seen on the anterior lip of the cervix.) This will help differentiate squamous metaplasia from neoplasia. In squamous metaplasia, the caudal border "blends" into the mature "normal" epithelium. The border between neoplastic and "normal" mature epithelium is sharp. Of course, the other features, especially the abnormal vascular patterns, are very important in helping to identify the most advanced neoplastic area present.
4. These are low and high magnification respectively of H and E preparations of biopsy obtained from the mosaic area shown on the previous slide. Which of the following is the correct diagnosis?

- a. microinvasive carcinoma less than 3 mm. invasion
- b. atypical squamous metaplasia
- c. CIN 3
- d. koilocytosis

4. **Answer:** c This lesion is representative of a cervical intraepithelial neoplasia Grade III. The first slide, at low power, reveals an intact basement membrane and a full thickness replacement of the surface epithelium by abnormal cells that are noted in the second slide to have an increased nuclear-cytoplasmic ratio, hyperchromatism, and loss of polarity. All of these features add up to the diagnosis of CIN 3.
5. Appropriate management for this patient would include (more than one answer may be correct):

- a. hysterectomy
- b. laser vaporization
- c. cold knife conization
- d. electrosurgical loop excision

5. **Answer: b, c, or d** Management of carcinoma-in-situ, or CIN 3, has undergone a radical change in the last twenty years. Until recently in the United States, the procedure of choice would have been a hysterectomy. With the advent of fertility control, we are seeing an increasing number of 25 to 35-year-old women with carcinoma-in-situ (CIN 3) who are either nulliparous, as this patient, or have one child and would like to have another and therefore, need to preserve the uterus. In the United States, there are presently two methods used to manage cases such as this patient. Cold knife conization is a method with a long history of use, and results of treatment are well documented. A newer method that has some advantages over cold knife conization is laser vaporization. In this patient, the entire transformation zone is visible, the entire lesion is visible, and there is excellent correlation between cytology, colposcopy, and histopathology. Therefore, the patient is a candidate for laser vaporization. Furthermore, if you look at the slide in Question 2, you will note that the lesion extends a considerable distance out on the anterior portio; thus, if a cold knife conization is to be performed, one would have to remove two-thirds of the cervix with possible resulting stenosis of the cervix. Since she wants to have a child, the recommended treatment would be laser vaporization.
Special Populations
A 19-year-old woman, P2002, was first seen in the clinic two years ago for a Pap. The Pap came back LSIL. She was seen one year later at which time a Pap test was performed which showed HSIL. She was referred to the Colposcopy Clinic. Colposcopic exam at that time was satisfactory and multiple biopsies were done. The pathological diagnosis on two of the biopsies was CIN 1 and on another was CIN 2.

1. The options for this patient include:
   a. observation
   b. loop electrosurgical excision procedure (LEEP)
   c. cryotherapy
   d. All of the above
CIN 2,3 in Adolescents

• “When a histological diagnosis of CIN 2 is specified, **observation is preferred** but **treatment is acceptable.**”

• “When a histological diagnosis of CIN 3 is specified or when colposcopy is unsatisfactory, **treatment is recommended.**”
The patient decided not to have any therapy. She subsequently conceived and was not seen again until after she delivered. At that visit another Pap test was performed. (Figure 1)

2. The cytology shows:

- a. negative for intraepithelial lesion or malignancy
- b. ASCUS
- c. LSIL
- d. HSIL
The patient decided not to have any therapy. She subsequently conceived and was not seen again until after she delivered. At that visit another Pap test was performed. (Figure 1)

2. The cytology shows:

- a. negative for intraepithelial lesion or malignancy
- b. ASCUS
- c. LSIL
- d. HSIL

2. The correct answer is d.

This is clearly an abnormal Pap. There are many parabasal cells with nuclear enlargement, irregular nuclear outlines and coarse chromatin. These findings are consistent with a HSIL lesion. No perinuclear halos within the cytoplasm (koilocytes) are seen in this test, which would be characteristic of LSIL/HPV.
3. Based on the colposcopic findings, the most likely colposcopic impression is:

- a. metaplasia, cervicitis
- b. CIN 1
- c. CIN 3
- d. microinvasive cancer
3. Based on the colposcopic findings, the most likely colposcopic impression is:

- [ ] a. metaplasia, cervicitis
- [ ] b. CIN 1
- [ ] c. CIN 3
- [ ] d. microinvasive cancer

3. The correct answer is c.

This colpophotograph shows an atypical transformation zone. On the anterior lip of the cervix, you can see a sharply demarcated mosaic pattern, which would lead you to believe that this is a HSIL lesion. No abnormal vessels are seen which would make you suspicious of invasive cancer.
4. Biopsies were taken. The histology shows (Figure 5):
   - a. squamous metaplasia
   - b. CIN 1/HPV
   - c. CIN 2
   - d. Microinvasive cervical cancer

(Figure 5) Click on image to enlarge.

5. The optimal treatment in this case is:
   - a. no treatment necessary; repeat Pap in one year
   - b. cryotherapy
   - c. LEEP
   - d. hysterectomy
4. Biopsies were taken. The histology shows (Figure 5):

- a. squamous metaplasia
- b. CIN 1/HPV
- c. CIN 2
- d. Microinvasive cervical cancer

(Figure 5) Click on image to enlarge

5. The optimal treatment in this case is:

- a. no treatment necessary, repeat Pap in one year
- b. cryotherapy
- c. LEEP
- d. hysterectomy

4. The correct answer is c.

The cellular organization of the epithelium is disturbed in the lower two-thirds and the cells display a high degree of nuclear and cellular abnormalities with typical and atypical mitoses.
CIN 2,3 in Adolescents

• For adolescents...with CIN 2,3 not otherwise specified, either treatment or observation for up to 24 months using both colposcopy and cytology at 6 month intervals is acceptable, provided colposcopy is satisfactory
Colposcopy in pregnancy

• Only indication to treat cervical neoplasia in pregnancy is invasive cancer
• Pregnancy accentuates both normal and abnormal findings
• Cervical biopsy not associated with serious bleeding or pregnancy losses in large series
• ECC is contraindicated
CIN 2/3 in pregnancy

• Repeat colposcopy no more frequently than every 12 weeks
• Re-biopsy if appearance worsens
• Defer repeat colposcopy 6 wks pp acceptable
• Conization only if invasive cancer suspected
The patient is a 25 year-old woman whose Pap smear showed high grade squamous intraepithelial lesion (HSIL). The patient was referred for colposcopic evaluation and the transformation zone was fully visualized. Biopsies were performed and when she returned for her results she complained of amenorrhea. A pregnancy test was positive and by her last LMP she was eight weeks pregnant.
1. Colposcopic examination on low power (upper) and high power (lower) reveals which of the following findings (color, margins and vessels) of the lesion at 10 o’clock:

- a. Dense acetowhite epithelium with indistinct vessels and margins
- b. Dense acetowhite epithelium, coarse punctuation, and distinct margins
- c. Dense acetowhite epithelium, mosaic, and distinct margins
- d. Translucent acetowhite epithelium with indistinct vessels and margins
1. Colposcopic examination on low power (upper) and high power (lower) reveals which of the following findings (color, margins and vessels) of the lesion at 10 o'clock:

- a. Dense acetowhite epithelium with indistinct vessels and margins
- b. Dense acetowhite epithelium, coarse punctation, and distinct margins
- c. Dense acetowhite epithelium, mosaic, and distinct margins
- d. Translucent acetowhite epithelium with indistinct vessels and margins

1. The correct answer is b.
   Colposcopic evaluation on low power (upper slide) and high power (lower slide) reveals dense acetowhite epithelium, coarse punctation, and distinct margins in the 10 o'clock position of the transformation zone. These findings are consistent with a high-grade (CIN3) lesion.
2. The histologic results of the biopsy of the lesion at 10 o'clock lesion is most consistent with:

- a. CIN 1
- b. CIN 2
- c. CIN 3
- d. Microinvasion

Click on image to enlarge.
2. The histologic results of the biopsy of the lesion at 10 o'clock lesion is most consistent with:

- a. CIN 1
- b. CIN 2
- c. CIN 3
- d. Microinvasion

2. **The correct answer is c.**
   The punch biopsy of the 10 o'clock lesion shows the surface epithelium with crowded elongated cells with hyperchromatic nuclei without polarity. This change is present in almost the full thickness of the epithelium and there are occasional abnormal mitotic figures seen in the upper layers. This is most consistent with CIN 3.
3. Since the patient is pregnant, what would be the next step in the management of this abnormal transformation zone?

- a. Cold knife cone
- b. Repeat the colposcopy every 3-4 months during pregnancy
- c. Electrosurgical loop excision
- d. Repeat the colposcopy postpartum
3. Since the patient is pregnant, what would be the next step in the management of this abnormal transformation zone?

- a. Cold knife cone
- b. Repeat the colposcopy every 3-4 months during pregnancy
- c. Electrosurgical loop excision
- d. Repeat the colposcopy postpartum

3. **The correct answer is b.**
Since a conservative approach to CIN during pregnancy is desirable, experienced colposcopists who are confident in determining the need and location of the biopsy should perform colposcopy. During pregnancy, the appropriate management of this patient's abnormal transformation zone would be to reevaluate with colposcopy every 3-4 months during pregnancy. The biopsy would be repeated if there was concern based on the colposcopic impression that the lesion was becoming more severe or if the cytology suggested invasion. Definitive treatment is delayed until the postpartum period unless invasion is identified. An ECC is unacceptable in pregnant women.
4. When the pregnancy is completed the next step should be?

- a. Immediate treatment with cone biopsy
- b. Repeat the Pap smear and if it is abnormal repeat the colposcopy prior to treatment
- c. Reevaluate with colposcopy
- d. Since the squamocolumnar junction was visible during pregnancy, proceed with cryotherapy
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☐ a. Immediate treatment with cone biopsy
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4. **The correct answer is c.**
   Since the Pap smear is not diagnostic and a high grade lesion was present during pregnancy, a postpartum colposcopic reevaluation is needed. If the patient underwent a vaginal delivery, the high grade lesion may have regressed and a colposcopic examination will determine the need for treatment.
The patient is a 40-year-old multiparous woman who is 25 weeks pregnant. Her Pap smear, which was performed 3 months prior to this visit, showed HSIL.

1. Colposcopy after acetic acid reveals which of the following features?
   - a. Dense acetowhite lesions
   - b. Exophytic lesion
   - c. Punctuation
   - d. Atypical vessels
   - e. All of the above
The patient is a 40-year-old multiparous woman who is 25 weeks pregnant. Her Pap smear, which was performed 3 months prior to this visit, showed HSIL.

1. **The correct answer is e.**

The colposcopic findings in the three colpophotographs reveal extensive changes. There are dense acetowhite lesions. These lesions are also exophytic in nature. There are also atypical vessels and multiple areas of coarse punctuation present.
2. Your colposcopic impression is:
   - a. Condyloma acuminata
   - b. Subclinical HPV
   - c. CIN 2
   - d. CIN 3
   - e. Invasive cancer

3. Findings in this case suggestive of malignancy include:
   - a. Friability
   - b. Large lesion
   - c. Atypical vessels
   - d. Nodularity
   - e. All of the above

4. The most appropriate area for biopsy is:
   - a. 6 o'clock
   - b. 9 o'clock
   - c. 12 o'clock
   - d. All of the above
2. Your colposcopic impression is:
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   - a. 6 o'clock
   - b. 9 o'clock
   - c. 12 o'clock
   - d. All of the above

2. The correct answer is e.
Colposcopic impression shows suspicion for invasive cancer. While decidual changes can make dysplastic changes appear worse during pregnancy, there are enough findings present to consider this to be an invasive lesion.

3. The correct answer is e.
The size of the lesion, the atypical vessels, the friability and nodularity are all warning signs that invasive cancer may present.

4. The correct answer is d.
Areas to be considered for biopsy include the 6, 9, or 12 o'clock areas. The most suspicious areas (i.e., those with the atypical vessels) should biopsied.
5. Your biopsies are shown at the right and are indicative of:

- a. HPV
- b. Low grade SIL (CIN 1)
- c. High grade SIL (CIN 3)
- d. Invasive squamous cancer
- e. Adenocarcinoma-in-situ

6. Your management plan at this time would include:

- a. Laser vaporization
- b. Wedge biopsy or cold-knife conization after fetal lung maturity
- c. Referral for radical surgery
- d. Cryotherapy
5. **The correct answer is c.**
   Biopsies were performed showing full thickness changes. Invasive cancer is not seen.

6. **The correct answer is b.**
   Management at this time should consider both patient and the pregnancy. A wedge biopsy of the worst area could be considered and has been recommended by several authors. If it is decided to perform a cold knife conization in order to rule out invasive cancer, it might be prudent to wait until fetal lung maturation can be obtained.

   Discussion must be held with the patient concerning the risks of such a procedure. If there was fetal lung maturity, the patient could be delivered if there was a problem at the time of the cold knife conization. If there was invasive cancer present on the conization, consideration could be given to a radical Cesarean hysterectomy.

   **Note:** This patient was lost to follow-up and did not return postpartum.
Other forms of glandular abnormalities

• Benign-appearing endometrial cells
  – Premenopausal (asymptomatic):
    • no further evaluation
  – Postmenopausal: endometrial assessment

• Benign-appearing glandular cells after hysterectomy
  – No further evaluation
Summary: Adolescents

• New guidelines favor observation over tx
• ASC-US, LSIL: repeat pap in 12 months
• ASC-H, HSIL: colpo +/- ECC
• AGC, AIS: colpo + ECC
• No see-and-treat, no HPV typing
• Can observe CIN 2 for up to 24 months
• CIN 3: cone (LEEP)
Summary: Pregnant

- Colposcopy preferred LSIL +
- CIN 1: follow-up post-partum
- CIN 2/3: repeat colpo q 12 wks
- No ECC
- Cone only if suspect invasive cancer
Summary: AIS

• Excisional biopsy followed by simple hysterectomy

• If future fertility desired: cone
  – Negative margins: colpo, ECC q 6 months
  – Positive margins: re-cone